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SLIDES: Industry's View of 'Lessons Learned' from Pinedale Anticline EIS Adaptive Management

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INDUSTRY'S VIEW OF 'LESSONS LEARNED'

from Pinedale Anticline EIS
Adaptive Management

Presented by Robin Smith

Mountaintop Consulting

May 13, 2004

AM MUST BE REGIONAL IN SCOPE

- Because ecological processes and species can only be managed in large ecosystems
- Goals and Objectives must be set
 - Goals and Objectives must be regional in scope

“Goals and Objectives”

from PAEIS ROD @ page C-2

“The goals and objectives of the AEM process are to develop resource monitoring plans for the specified resources, to among other things:

- Determine the effects of PAPA development on these resources;
- Determine the effectiveness of the mitigation measures contained in the Record of Decision (ROD);
- Modify the mitigation as deemed appropriate to achieve the stated goal/objective;...”

Table 3.6 Greater Sage-Grouse Trends, Jonah Field II Wildlife Study Area, 1992-2003.¹

Lek No.	Lek Name(s)	Most Recent Activity	History ³											
			1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1	Stud Horse Butte East/4-2	2003	NS	NS	9	NS	26	6	31	25	22	12	10	14
2	Sand Draw # 3/4-6	2003	NS	NS	2	NS	2	17	12	7	14	16	NS	6
3	Sand Draw Reservoir/ Sand Draw # 4	2003	NS	NS	NS	NS	16	0?	36	26	22	27	17	23
4	Clay Hill Well/ Clay Hill	2003	NS	NS	16	NS	15	4	4	0	1	1	0	1
5	Sand Draw # 2/4-8	1996 ³	NS	NS	NS	NS	1	0?	0	0	NS	NS ⁴	NS ⁴	0
6	Sand Draw # 5/4-9	1996 ³	NS	NS	NS	NS	3	0?	0	0	0	NS ⁴	NS ⁴	0
7	Yellowpoint Ridge/4-7	2003	NS	NS	36	NS	0	16	17	11	9	6	NS	3+
8	Luman Well/4-10	1996 ³	NS	NS	NS	NS	2	0?	0	0?	0	NS ⁴	0	0
9	Alkali Draw	2003	NS	NS	NS	NS	NS	-50	26	62	47	45	46	36
10	The Rocks	2003	NS	NS	NS	NS	NS	60	53	79	64	62	47	25
11	Bob/4-5	UNK	NS	NS	UNK	NS	UNK	NS	0	0	0	NS ⁴	NS ⁴	0
12	The Rocks Road/ 3-8	2003	1	0	0	0	1	4	1	0+	0	NL ⁴	NL ⁴	1-3?
13	Wagon Wheel/3-6	UNK	NS	NS	NS	NS	0	0	0	0	0?	NS ⁴	0?	0
14	Sand Springs Well # 1/3-7	UNK	0	0	0	0	0	0	0	0	0	NL ^{4,5}	NL ^{4,5}	0
15	Sand Draw #1/Sand Draw	1996 ³	NS	NS	NS	NS	1	0?	0	0	0	NS ⁴	NS ⁴	0
16	Long Draw	UNK	NS	NS	NS	NS	NS	NS	NS	NS	0?	0?	0	0
17	Buckhorn Well #1	2001 ³	NS	NS	NS	NS	NS	NS	NS	5	3	3	0	0?
18	Shelter Cabin Reservoir	2003	NS	NS	NS	NS	NS	NS	NS	6	90	73	43	43
19	Prairie Dog Town 5/Prairie Dog	2002 ³	NS	NS	NS	NS	NS	NS	NS	NS	9	22	7	NS
20	Upper Alkali Creek	UNK	NS	NS	0	NS	0	NS	NS	NS	NS	NS	NS	0
21	South Rocks	2000 ³	NS	NS	NS	NS	NS	NS	NS	NS	10	NS	NS	NL
22	Antelope State	2000	NS	NS	NS	NS	NS	NS	NS	NS	9	0	0	0
23	Drill Pad	UNK	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0?	0
24	Little Fred Satellite	2001 ³	UNK	UNK	UNK	UNK	UNK	UNK	4	≥1	NS	5	NS	NS



Figure 1. Numbers of male sage grouse (average and total) on the Jonah Field II Wildlife Study Area leks compared to state-wide average, and total number of wells drilled on Jonah Field II (1994-2003).

AM MUST RECONCILE CONSERVATION BIOLOGY WITH SUSTAINABLE DEVELOPMENT

BLM's goals must be broad in scope
and incorporate economic and social
objectives

Consider all users of public lands

Incorporate economic and social
objectives into goals

Grazing Example

AM goals and objectives shouldn't focus on improvement of sage grouse habitat to the exclusion of AUM's

AM MUST PROMOTE EXPERIMENTATION AND LEARNING TO A HIGH PRIORITY

Objectives and goals should include the ability to test the basis for existing mitigation in controlled experiments

Mesa Winter Drilling Study

an example of promoting
experimentation and learning

Mule Deer grazing on a winter drilling pad on Pinedale Anticline

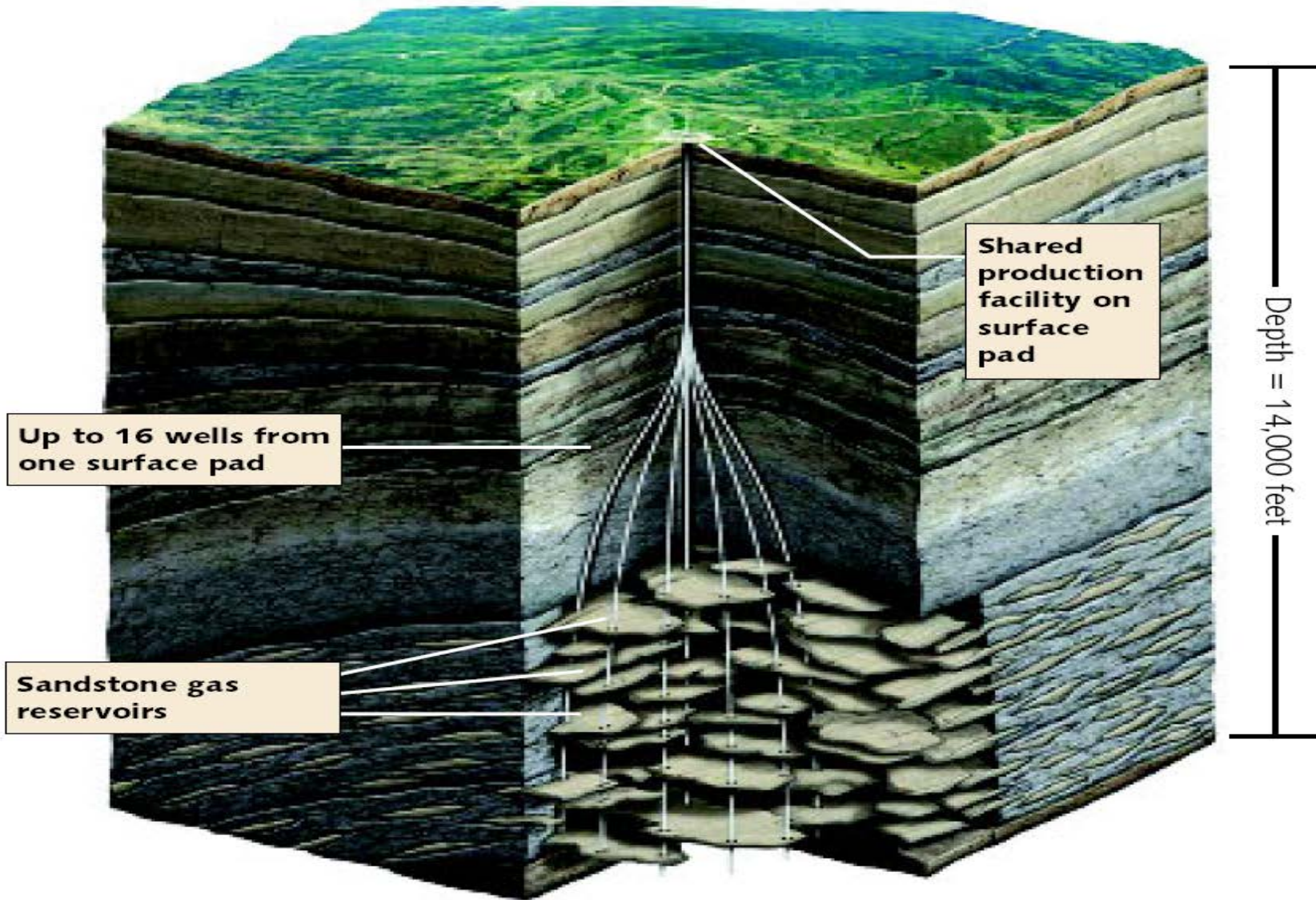


Mitigation Summary

Questar Pinedale Project

	PERMITTED BY EIS	QUESTAR PROPOSAL
Surface disturbance	1,474 acres	533 acres
Surface disturbance	150 pads	61 pads
Truck trips annually	25, 467	0
Emissions	133 tons per year	116 tons per year
Duration of drilling	18 years	9 years
Mitigation cost	\$37.5 million	\$209.5 million

The BLM imposes winter-drilling restrictions to protect mule deer that use the Mesa for their winter range. To determine the impact of winter drilling, Questar is funding an independent 5 year study using collars equipped with GPS transmitters to track deer movements. As part of the study, the BLM agreed to grant Questar a one year-exemption to drill at one pad during the winter of 2002/2003.



REACHING OUT: By drilling as many as 16 wells from a single pad, Questar can produce natural gas from a large area with the least possible disturbance to wildlife and its habitat. However, to justify the added expense of directional drilling and other mitigation, the company needs to drill without seasonal interruptions.

After the first year of the study, the jury was still out. Data from transmitters suggested that deer weren't moving away from the winter drilling activities. The BLM stated that there was "no conclusive data to indicate quantifiable, adverse effects to deer" from the drilling. BLM granted another one-year exemption for drilling during the winter of 2003/2004.

BLM MUST SHARE IN THE COST OF COLLECTING AND ANALYZING DATA

PAWG AND Task Groups Charter:

“Approximately 3 months of Federal employee support and \$5,000 will be expended annually.”

BLM MUST SHARE IN THE COST OF COLLECTING AND ANALYZING DATA, continued

For Pinedale Anticline AM wildlife
and water quality monitoring alone,
industry has spent over \$500,000.

- Industry IS not opposed to AM

- Important that it be applied constructively and designed to succeed in meeting goals and objectives, including social and economic.

SOLUTIONS

- Set biological goals to maintain optimal management capacity for regional ecosystem
 - Include economic and social objectives in AM goals, as well as biological
 - Be willing to test management decisions by experimentation
- Address personnel and budget issues